



AF  
3761

Patent  
Attorney's Docket No. 000500-300

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of ) **MAILSTOP: AF**  
)  
Berith PORÖ et al. ) Group Art Unit: 3761  
)  
Application No.: 09/857,374 ) Examiner: Catherine L. Anderson  
)  
Filed: August 2, 2001 ) Confirmation No.: 3321  
)  
For: AN ABSORBENT STRUCTURE IN AN )  
ABSORBENT ARTICLE, COMPRISING )  
A PARTIALLY NEUTRALIZED )  
SUPERABSORBENT MATERIAL AND )  
AN ABSORBENT ARTICLE THAT )  
COMPRISES THE ABSORBENT )  
STRUCTURE )

RECEIVED  
JAN 07 2004  
TECHNOLOGY CENTER R3700

AMENDMENT/REPLY TRANSMITTAL LETTER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Enclosed is a reply for the above-identified patent application.

- ☐ A Petition for Extension of Time is also enclosed.
- ☐ A Terminal Disclaimer and the ☐ \$55.00 (2814) ☐ \$110.00 (1814) fee due under 37 C.F.R. § 1.20(d) are also enclosed.
- ☐ Also enclosed is/are \_\_\_\_\_
- ☐ Small entity status is hereby claimed.
- ☐ Applicant(s) requests continued examination under 37 C.F.R. § 1.114 and enclose the ☐ \$385.00 (2801) ☐ \$770.00 (1801) fee due under 37 C.F.R. § 1.17(e).
- ☐ Applicant(s) requests that any previously unentered after final amendments not be entered. Continued examination is requested based on the enclosed documents identified above.
- ☐ Applicant(s) previously submitted \_\_\_, on \_\_\_, for which continued examination is requested.

- ☐ Applicant(s) requests suspension of action by the Office until at least \_\_\_, which does not exceed three months from the filing of this RCE, in accordance with 37 C.F.R. § 1.103(c). The required fee under 37 C.F.R. § 1.17(i) is enclosed.
- ☐ A Request for Entry and Consideration of Submission under 37 C.F.R. § 1.129(a) (1809/2809) is also enclosed.
- ☒ No additional claim fee is required.
- ☐ An additional claim fee is required, and is calculated as shown below:

AMENDED CLAIMS					
	NO. OF CLAIMS	HIGHEST NO. OF CLAIMS PREVIOUSLY PAID FOR	EXTRA CLAIMS	RATE	ADD'L FEE
Total Claims		MINUS =		× \$18.00 (1202) =	
Independent Claims		MINUS =		× \$86.00 (1201) =	
If Amendment adds multiple dependent claims, add \$290.00 (1203)					
Total Claim Amendment Fee					
If small entity status is claimed, subtract 50% of Total Claim Amendment Fee					
TOTAL ADDITIONAL CLAIM FEE DUE FOR THIS AMENDMENT					0

- ☐ A check in the amount of \$ \_\_\_\_\_ is enclosed for the fee due.
- ☐ Charge \$ \_\_\_\_\_ to Deposit Account No. 02-4800.

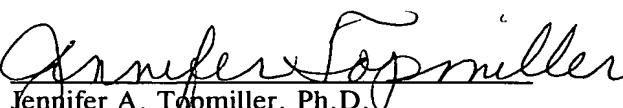
The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: January 2, 2004

By:

  
Jennifer A. Topmiller, Ph.D.  
Registration No. 50,435

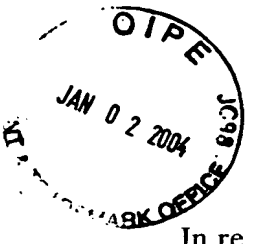
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DL

Patent

Attorney Docket No. 000500-300

1-8-04



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of	)	<b>MAILSTOP AF</b>
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Berith PORSSÖ et al.	)	Group Art Unit: 3761
	)	
Application No.: 09/857,374	)	Examiner: Catherine L. Anderson
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Filed: August 2, 2001	)	Confirmation No.: 3321
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For: AN ABSORBENT STRUCTURE IN	)	
AN ABSORBENT ARTICLE,	)	
COMPRISING A PARTIALLY	)	
NEUTRALIZED	)	
SUPERABSORBENT MATERIAL	)	
AND AN ABSORBENT ARTICLE	)	
THAT COMPRISES THE	)	
ABSORBENT STRUCTURE	)	

**REPLY AFTER FINAL REJECTION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RECEIVED**  
JAN 07 2004  
TECHNOLOGY CENTER R3700

Sir:

In complete response to the Office Action mailed October 10, 2003, Applicants submit the following remarks.

As correctly stated in the Official Action, Claims 1-13 are pending in the present application. Claims 1-13 stand rejected.

*Rejections Under 35 U.S.C. § 103(a)*

Claims 1-13 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Beihoffer et al. (U.S. Patent No. 6,222,091) in view of Wada et al. (U.S. Patent No. 5,994,614). This rejection is respectfully traversed.

In order to establish a case of *prima facie* obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation to modify the reference or combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art reference(s) must teach or suggest all of the claim limitations. *See* M.P.E.P. §2142. Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness.

Beihoffer et al. disclose multicomponent superabsorbent particles. These multicomponent particles comprise at least one acidic water-absorbing resin and at least one basic water-absorbing resin. These particles contain at least one microdomain of the acidic resin in contact with, or in close proximity to, at least one microdomain of the basic resin.

Conventional superabsorbent particles have lower absorption capacity for body fluids, such as urine or menses compared to deionized water, because such fluids contain electrolytes. This decrease in absorption is termed "salt poisoning." The purpose of multicomponent superabsorbent particles of Beihoffer et al. is to improve the performance of the superabsorbent with respect to absorbing electrolyte-containing liquids and

counteracting the salt poisoning, thereby improving the absorption properties of the particles.

These beneficial properties are obtained when the microdomains of the acidic resin and the microdomains of the basic resin are in close proximity with each other. The multicomponent particles operate as an ion exchanger, thereby causing deionization of the liquid. The multicomponent particles contain at least about 50%, preferably at least about 70%, by weight of acidic resin plus basic resin. Nothing about the degree of neutralization of the superabsorbent particles can be gleaned from this information disclosed in Beihoffer et al.

The multicomponent particles of Beihoffer et al. can also be mixed with other superabsorbent particles. For example, in claim 1 of Beihoffer et al., the article comprises a superabsorbent material comprising a) multicomponent superabsorbent particles, 0 to 16% neutralized, and b) particles of a second water-absorbing resin selected from the group consisting of an acidic water-absorbing resin, a basic water-absorbing resin, and mixtures thereof. Because the superabsorbent material comprises both a) and b), nothing can be gleaned about the total degree of neutralization of the superabsorbent material, nor of about the relation of the degree of neutralization of different portions thereof.

On page 2 of the Official Action, the Examiner refers to col. 46, ll. 29-31, where it is indicated that the diaper core can contain zones of multicomponent SAP particles and zones of a second water-absorbent resin. The multicomponent particles are said to have a neutralization of 20%. *See* Office Action page 2, referring to col. 27, table 1. However,

it can be seen that note 7) of table 1 refers to a mixture of 60% poly(DAEA) and 40% polyacrylic acid-20% neutralized. It is only the polyacrylic acid which is 20% neutralized, not the mixture. In contrast, in the presently claimed invention, all of the superabsorbent material used in the wetting region is partially neutralized superabsorbent material.

Contrary to the Office Action, there is no disclosure or suggestion in Beihoffer et al. regarding multicomponent particles being contained in the wetting region, and that the second resin is contained in a region outside of the wetting region. *See* Office Action, bottom of p. 2. Applicants are unclear as to source of evidence for this conclusion. Further, the Examiner has selected one example in a table allegedly having 20% neutralization, which really refers to a mixture of two kinds of particles, only one of which has a degree of neutralization of 20%. The two kinds of superabsorbent particles, mentioned, *e.g.*, in Claim 1 of Beihoffer et al. or in the Example cited, do not have any relationship between each other regarding the degree of neutralization. That is, there is no motivation to select the particular relationship of the degree of neutralization of the two superabsorbent particles of the presently claimed invention, or the particularly claimed orientation to one another in the structure and/or the absorbent article. Moreover, only in one place in the text of Beihoffer et al. is it stated that the particles could be contained in different zones (col. 46, ll. 29-31). There is no disclosure concerning what type of zones, how they should be oriented, or why this would be done.

Additionally, the particles according to the presently claimed invention and those according to Beihoffer et al. differ from each other. The particles in the wetting region of

the structure of the presently claimed invention possess the property that they do not swell as much as conventional particles (*see, e.g.*, p. 4 of the specification), while the particles in Beihoffer et al. are said to have better absorption capacity than conventional SAPs (*see, e.g.*, col. 5, ll. 17-20). Thus, the particles in the wetting region of the presently claimed invention do not swell in the same degree, as the particles of Beihoffer et al., thereby reducing the risk of gelling. Rather they would let the liquid pass to areas with particles having greater neutralization, which swell to a higher degree. The multicomponent particles in Beihoffer et al. have the property of high absorbency and this would not lead to the structure or article of the presently claimed invention, even assuming *arguendo* that one skilled in the art would place the particles of Beihoffer et al. according to the suggestion of the Examiner. Applicants respectfully submit that the Examiner has merely selected parts of the Beihoffer et al. publication and engaged in hindsight analysis in order to come to the solution according to the presently claimed invention. Applicants respectfully submit that the absorbent structures and articles of the presently claimed invention and those disclosed in Beihoffer et al. are **not** equivalent.

The different particles from a) and b) of Claim 1 in Beihoffer et al. are mainly contained in a mixture. A degree of neutralization of 20 to 50% will not be obtained with a) and b). According to the solution of the presently claimed invention, an article is obtained, having a pH between about 4 and 5. This is due to the degree of neutralization of the superabsorbent material. This advantageously provides an absorbent article that prevents the occurrence of malodors and skin irritation when worn. At the same time, a

lower absorption has been obtained, which provides the advantages of decreasing the risk of gelling mentioned above. This is not obtained in any absorbent article disclosed or suggested by Beihoffer et al.

Applicants respectfully submit that the above-mentioned deficiencies of Beihoffer et al. are not remedied by Wada et al. The Examiner appears to merely rely on Wada et al. for a teaching of thickness of an absorbent structure comprising superabsorbent material. Office Action, p. 3.

Concerning Claim 2, the Examiner indicates that it would be obvious to choose a degree of neutralization between 25 and 50% (presumably between 25 and 35% is intended) because it is allegedly not disclosed that this solves any particular problem or that it serves any particular purpose. Office Action, p. 3. However, a more narrow interval of pH will be obtained (4.3 to 4.7 instead of about 4 and just above 5), which will provide even better control of any malodors and skin irritation. Thus, the Examiner's statement that the invention would perform equally well with a degree of neutralization between 20 and 50% is incorrect.

Concerning Claim 7, the Examiner refers to Figure 4D. Office Action, p. 4. However, this figure discloses a multicomponent **particle** 80, which contains alternating zones of acidic water-absorbing resin 82 and basic water-absorbing resin 84. *See* col. 8, ll. 55-67; *compare with* Figures 4A to 4C. This does not refer to an absorbent **structure** with different zones, but merely to a multicomponent **particle** (*e.g.*, component a of Claim 1) having a particular degree of neutralization, and **clearly differs** from the zones referred to



in Claims 7 and 8 in the presently claimed invention. The Examiner refers to the same alleged disclosure of Beihoffer et al. regarding Claim 8.

Applicants further submit that Beihoffer et al., even in combination with Wada et al., does not disclose or suggest an absorbent structure according to present Claim 12 in light of the same arguments as above, and particularly, the discussion concerning Figure 4D.

As mentioned above, the presently claimed invention will not have very good absorption properties in the wetting region. The partially neutralized particles, which are used in the wetting zone, will have a lower absorption capacity than conventional superabsorbents. The multi-component particles according to Beihoffer et al. have a higher absorption capacity than conventional superabsorbents. Hence, the structure according to the presently claimed invention and the structure in Beihoffer et al. **cannot be similar**. Moreover, the partially neutralized particles according to the present invention **cannot be similar** to the multicomponent particles according to Beihoffer et al.

According to the presently claimed invention, a decrease of any skin irritation is obtained, because of the advantageous pH obtained in the article during use. This is likely not obtained in Beihoffer, because the particles, which are partially neutralized, are mixed with other superabsorbing materials.

Therefore, the disclosures of Beihoffer et al. and Wada et al., either alone or in combination, do not disclose or suggest each and every element of the presently claimed invention. Additionally, the presently claimed invention has different properties and

advantages not found in either the Beihoffer et al. or Wada et al. Accordingly, withdrawal of this rejection is respectfully requested.

*Conclusions*


From the foregoing, further and favorable consideration in the form of a notice of allowance is respectfully requested and such action is earnestly solicited.

If there are any questions concerning this amendment, or the application in general, the Examiner is respectfully requested to telephone Applicant's undersigned representative so that prosecution may be expedited.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: January 2, 2004

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